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## NATIONAL LIVESTOCK MARKETINGS FOR MAJOR MARKET OUTLETS, SELECTED YEARS

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Thomas T. Stout and Karen J. Ramsey



Department of Agricultural Economics and Rural Sociology  
The Ohio State University  
Columbus

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## **INTRODUCTION**

Perishability control is a fundamental technical problem in food marketing. So also is daily distribution across a continental landmass. Developments in communication, transportation, and storage get adopted quickly when they help solve these problems. During the past century, technologies like telegraph, railroads, refrigeration, trucks, radio, hardtop highways, and electronic data processing have each brought radical transformations in marketing methods. Even without more technology, modern marketing would continue to change because it continues to absorb what already exists; it is using a mixture of methods with origins in different technological eras. Livestock marketing provides examples. The information that follows records temporal changes in the relative importance of different kinds of livestock markets. More information relating to changing animal agriculture and the changing livestock/meat industry in Ohio and the nation is referenced on the last page.

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\*\* Professor and student summer intern, respectively, Department of Agricultural Economics and Rural Sociology. The authors are grateful to Dean Baldwin, Ohio State University; Carl Galopin and Dan Van Ackeren, Packers and Stockyards Administration; USDA; and John Van Dyke, Chief, Livestock and Grain Market News Branch, Agricultural Marketing Service, USDA, for assistance and suggestions concerning sources and interpretations; to Maurice Klein for data retrieval; and to Janice DiCarolus and Karlene Robison for graphics and typing.

## **MARKETING RESPONDS TO NEW TECHNOLOGY**

Railroads - Marketing has always been sensitive to transportation developments. In the first half of the Nineteenth Century, all the best land transportation had legs; people walked or persuaded animals to do it for them. Travel was arduous; most land commerce was confined to short distances. Rivers or canals or even ships around the landmass were better than freighting overland. Long land trips were adventures, undertaken by few and seldom repeated. Adventurers to the California gold fields in the 1850s took months to cross the continent, and they wanted no more of that. They came home by sea around the antarctic tip of south America, or hiked the isthmus at Panama to transfer from ship to ship.

For most families the best answer to the problems imposed by distance was self-sufficient lives on small farms that provided for nearly all their needs. The country was 93 percent rural in 1810; 89 percent in 1840 (Census). There was very little livestock marketing early in the century because there was little commercial surplus, and the few townspeople often kept livestock of their own - some chickens, a cow, perhaps a pig. In the East the occasional farm animal was walked or carted to town and sold directly to the village butcher. New agricultural states in the interior, like Ohio, tried livestock droving to towns like Baltimore in the East, but then found a better market selling brined or salted meats down the major rivers, mainly to New Orleans, from places like Cincinnati.

In the space of just a few years - say thirty - railroads changed all this, advancing from a novelty to a transcontinental connection in 1869. (With that accomplishment, the

overland trek to California was transformed from a four-month ordeal to a four-day trip.) It would be difficult to identify a technology with more potential for rapid and revolutionary change than railroads, representing a travel mode perhaps thirty times faster than the sustained speed of the next-best alternative. Such speed and reliability made suddenly possible levels of economic specialization that featured whole systems of urban development, consumer demand, and commercial production and delivery from remote rural areas.

Railroads were expensive to build and all this company track and rolling stock had then to be maintained. So the choice of terminal points was important because success required a substantial volume of traffic. Major cities, often at important water transport sites, became early terminal points, and were immediately enhanced in their strategic importance by their connection to this vastly superior land transport technology. Chicago, located on the best route past the southern edge of the Great Lakes, was an obvious terminal choice.

Centralized Marketing - An important early freight item was livestock. Railroad companies built holding pens where their tracks ended. In 1865 five competing railroads consolidated their terminal pens in Chicago, creating the Chicago Union Stockyards, and opening a railroad-operated 'terminal marketing' era that would dominate livestock marketing for most of the century to come. Sixty years later, some 50-odd terminals like Chicago still accounted for 75-90 percent of all packer purchases of cattle, calves, hogs, sheep and lambs (Williams, p. 212). A distinctive feature of these great central markets was that almost all the daily buying and selling was done by professionals. This meant

that livestock owners could hire professional commission salesmen to represent them in bargaining with the order buyers and packer buyers who bought on behalf of their own clients and employers.

Refrigeration - Even today fresh meats require watchful care and prompt consumption. The advent of refrigeration (manmade ice) and refrigerated railroad cars in the 1870s removed technical barriers to improving efficiency by shipping meat instead of livestock. As the country urbanized with the railroads (28 percent urban in 1880; 46 percent in 1910), livestock production was shifting westward, and meatpacking was migrating from consumer-based urban locations in the East to Midwestern locations that were closer to most of the livestock production. The best locations were at the railroad-owned terminal livestock markets.

But urban growth in time surrounded these new locations, too, leaving city-bound terminals and meatpackers well-located only as long as their railroad lifelines to countryside and customers remained the best way to move freight quickly over long distances. This 'centralized' or 'terminal' system represented the best marketing solution available in the years between the Civil War and World War I to the problem of national distribution for perishable food products. Its effectiveness contributed to the growth of the nation, and elements of this terminal system continue to contribute to modern marketing today.

Trucks and Highways - Some observers say that World War I was the proving ground that developed trucks as reliable conveyances. Their obvious commercial potential after that war, their popularity with farmers, and a rising population of

marketing were vigorous competitors during the 1940s, 1950s and 1960s and, wherever there is opportunity, they remain so today.

Size Economies and Specialization - The years since World War II have witnessed a transformation in agricultural production from family farm origins to operations of industrial proportions that specialize in a single product line. Commercial feedlots now produce 85 percent of all fed beef. Almost all broiler output is now the product of 55 firms; a similar number of firms account for about two-thirds of U.S. egg production, and 20 firms account for nearly all U.S. turkey production. Hog production is increasingly concentrated; the leading firm already accounts for 2 percent of U.S. hog production; 50 firms like that would account for all of it (ESO-1934, ESO-1980).

Direct Marketing - Packers have located close to these new sources of supply, specializing in processing the product they have moved to be near, and using the interstate highway system for their product distribution (ESO-1934). There is no longer a massive assembly task in gathering the necessary raw materials. Producers and processors conclude that they can deal directly with each other (not unlike the origins of direct marketing in colonial days, but on a massive scale). Terminal and country markets are by-passed. 'Direct marketing' - both between the livestock producer and the packer, and in turn between the packer and the meat retailer - has emerged since the 1960s as the dominant marketing channel for livestock and meat. There is some concern among professional observers that this direct marketing of livestock leaves some sellers inadequately protected in their bargaining encounters with professional adversaries on the buying side of the transaction. There is merit to this concern. But integration or

contracted production arrangements often accompany direct marketing, and serve in place of the open market encounters that once characterized almost all livestock title transfers.

## **LIVESTOCK MARKETS TODAY**

Table 1 offers a regional census of U.S. market outlets for livestock in 1991. (Table footnotes offer helpful insights.) These markets represent a mixture of technological eras and livestock marketing systems. Most of the remaining terminal markets are in the North Central region. These fourteen owe their survival in part to their successful transition to trucks and highway transportation networks. They are remnants of the old centralized marketing system. Together with auctions they represent the only types of markets that provide professional representation for sellers in market transactions. Traditionally auctions are associated with the decentralized or country marketing system. They are particularly numerous and important as market outlets in North Central states and the South.

Bonded packing plants in Table 1 represent over 90 percent of total packing industry activity in terms of livestock numbers or dollar value of meat sales. Wherever livestock production densities are highest, their direct purchase activities tend to be highest also.

The 'nonpublic' column in Table 1 contains a variety of market outlets that tradition associates primarily with country marketing. Many of these are merchant operations that buy and sell livestock on a daily basis at one business address featuring covered pens, loading docks, and a livestock scales. But some of these facilities may be

Table 1: MARKET OUTLETS FOR LIVESTOCK: Public Markets, Bonded Packing Plants, and Nonpublic Entities Registered with the Packers and Stockyards Administration, by Regions, United States, September 30, 1991.<sup>1</sup>

Regions	Public Markets <sup>2</sup>		Non-Public Registrants <sup>2,3</sup>	Bonded Packing Plants	Total
	Auctions	Terminals			
Northeast	91	1	503	115	710
North Central	642	10	2484	181	3317
(Cornbelt)	(321)	(6)	(1095)	104	(1526)
South Atlantic	199	0	438	75	712
South Central	488	3	975	113	1579
Mountain	99	0	639	31	769
Pacific	81	0	370	62	513
48 States	1600	14	5409	577	7600

<sup>1</sup> Registrations provide a proxy for but not an accurate count of market outlets. Some registrants may not operate market facilities with pens or scales, for example. Also some market facilities may carry more than one registration, and bonded packers are not all packers (only those with \$500,000 or more in annual livestock purchases). Finally, market numbers are not proportionate to market importance as measured by livestock volume.

<sup>2</sup> Public markets provide professional representation for sellers; nonpublic outlets do not.

<sup>3</sup> Includes registered dealers and dealer markets and/or packer buying stations (licensed in Ohio as 'concentration yards').

Source: Derived from "Packers and Stockyards Statistical Report: 1990 Reporting Year," SR 92-1 (Table 36), Packers and Stockyards Administration, USDA, November, 1992. Terminal market locations are from John Van Dyke, Chief, Livestock and Grain Market News Branch, AMS, USDA.



owned and operated by packers, and in these circumstances are just buying stations for packers making direct purchases. Other registrants in this column operate no fixed market facility at all, being either agent buyers filling purchase orders for clients, or independent dealers who travel a market area, usually as a part-time activity, in search of speculative opportunities to buy or sell.

### **THE DIMINISHED IMPORTANCE OF TERMINALS**

Terminals have been called 'hotels for livestock', referring to the fact that terminals earned their income from renting pen space and selling feed and bedding. Also they provided support services like office space, weighing, and yard personnel for loading, unloading, and driving livestock in the alleyways. But all the buying and selling was done by the commission salesmen, packers, and order buyers who rented offices and pens from the stockyard company. Pen space was available not only for 'salable receipts' (consigned to commission firms for sale) but also for 'direct receipts' (already purchased somewhere else by packers and held for slaughter at adjacent plants), and 'throughs' (enroute to other destinations). Salable receipts over the years were the biggest category, typically accounting for 80 percent or more of total annual receipts.

Tables 2-5 record the change in volume of terminal salable receipts over a period of nearly 40 years. Notice that all four tables are constructed the same way. Beginning with 1953, when terminals still accounted for a substantial share of total livestock marketings (consult bottom rows), each table proceeds at 10-year intervals to record salable receipts as a percent of 1953 volume. In Table 2, for example, we see that the Chicago Union Stockyards sold over 2.2 million cattle in 1953, that 1963 volume was

**Table 2: TERMINAL CATTLE: Salable Receipts at Terminal Public Stockyards, United States, Selected Years, 1953-1992<sup>1</sup>**

Market	1953	Receipts as a Percent of 1953			
		1963	1973	1983	1992
Baltimore, MD	169,688	54.18	22.97	0	0
Chicago, IL	2,265,254	70.85	0 <sup>2</sup>	0	0
Cincinnati, OH	206,853	88.09	48.39	0	0
Evansville, IN	124,424	77.70	42.68	18.15	0
Fort Smith, AR	125,027	91.84	167.92	141.45	0
Fort Worth, TX	747,176	39.40	15.40	0	0
Indianapolis, IN	414,083	88.91	34.33	27.70	0
Joplin, MO	69,745	98.45	179.45	135.01	314.92
Kansas City, MO	1,362,528	65.86	27.83	16.87	0
Lancaster, PA	264,167	64.58	44.70	43.69	27.01
Louisville, KY	195,664	119.40	141.14	125.99	99.27
Memphis, TN	194,353	58.74	75.27	344.45	0
Milwaukee, WI	199,584	104.19	85.13	0	0
E. St. Louis, IL	977,680	66.56	30.86	21.98	6.14
Oklahoma City, OK	772,829	78.56	102.86	114.60	66.30 <sup>3</sup>
Omaha, NE	2,119,441	90.82	41.50	26.90	4.63 <sup>3</sup>
Peoria, IL	133,843	79.59	181.25	78.83	0
San Antonio, TX	320,588	56.52	79.03 <sup>3</sup>	64.90 <sup>3</sup>	30.53 <sup>3</sup>
Sioux City, IA	1,271,339	101.98	64.03 <sup>3</sup>	34.80 <sup>3</sup>	8.80 <sup>3</sup>
Sioux Falls SD	380,276	123.51	121.37	148.75	92.04 <sup>3</sup>
St. Joseph, MO	744,797	106.91	40.98	24.93	16.20 <sup>3</sup>
So. St. Paul, MN	1,107,557	93.27	72.70	45.64	21.21
Springfield, MO	192,294	124.06	235.51	151.81	102.93
Tulsa, OK	110,251	85.25	57.21	94.07	0
All Terminal Marketings	14,469,441	81.86	50.09	39.73	15.68
All US Marketings (000)	28,307	37,863	48,369	48,089	45,884
Percent Terminal	51.12	31.28	14.98	11.95	4.94

<sup>1</sup> All listed originally as Terminal Public Stockyards by the Packers and Stockyards Administration, USDA. The list contained 28 entries as of January, 1979. Some are omitted here. Most terminal sales of cattle are now by auction bidding rather than by private treaty.

<sup>2</sup> Chicago Union Stockyards closed cattle operations in August, 1971.

<sup>3</sup> Cattle and Calves combined.

<sup>4</sup> Percentages may be underestimated to the extent that some terminals are excluded here or overestimated to the extent that some calves have been included.

Source: For years before 1992, Livestock and Meat Statistics, USDA, selected issues. For 1992, terminal marketings, John Van Dyke, Livestock and Grain Market News Branch, AMS, USDA. For 1992, total (US) marketings, Meat Animals: Production, Disposition and Income, MtAn 1-1(93), NASS, USDA, April, 1993.

**Table 3: CALVES: Salable Receipts at Terminal Public Stockyards, United States, Selected Years, 1953-1992<sup>1</sup>**

Market	Receipts as a Percent of 1953				1992
	1953	1963	1973	1983	
Baltimore, MD	49,360	25.87	11.67	0	0
Chicago, IL	115,818	3.69	0	0	0
Cincinnati, OH	60,640	42.92	8.49	0	0
Evansville, IN	30,157	27.78	20.66	0	0
Fort Smith, AR	35,566	59.22	<sup>2</sup>	<sup>2</sup>	0
Forth Worth, TX	213,739	39.70	38.35	0	0
Indianapolis, IN	87,924	17.70	1.96	1.93	0
Joplin, MO	46,900	51.01	29.33	8.23	10.83
Kansas City, MO	202,941	23.87	23.95	0	<sup>2</sup>
Lancaster, PA	60,328	48.75	18.85	14.04	5.80
Louisville, KY	141,273	44.74	20.19	2.58	1.02
Memphis, TN	31,181	40.38	58.44	14.14	0
Milwaukee, WI	356,886	66.84	29.01	0	0
E. St. Louis, IL	322,082	18.31	2.89	0.38	<sup>2</sup>
Oklahoma City, OK	120,227	83.11	103.39	16.96	<sup>2</sup>
Omaha, NE	142,052	49.01	9.55	0	<sup>2</sup>
Peoria, IL	26,580	13.95	1.36	0.41	0
San Antonio, TX	167,926	67.57	<sup>2</sup>	<sup>2</sup>	<sup>2</sup>
Sioux City, IA	90,010	170.92	<sup>2</sup>	<sup>2</sup>	<sup>2</sup>
Sioux Falls, SD	16,022	60.89	88.14	0	<sup>2</sup>
St. Joseph, MO	84,333	20.79	26.40	15.29	<sup>2</sup>
St. Paul, MN	463,574	56.39	22.66	10.22	1.23
Springfield, MO	213,587	39.65	11.65	3.36	2.13
Tulsa, OK	35,041	94.30	18.06	25.07	0
All Terminal Marketings	3,114,147	48.01	22.27	3.85	0.65
All US Marketings (000)	14,431	11,918	11,652	10,443	9,725
Percent Terminal <sup>3</sup>	21.58	12.54	5.95	1.15	0.21

<sup>1</sup> All listed originally as Terminal Public Stockyards by Packers and Stock yards Administration, USDA. The list contained 28 entries as of January, 1979. Some are omitted here.

<sup>2</sup> Calves included with cattle.

<sup>3</sup> Percentages may be underestimated to the extent that some terminals are excluded here, or that some calves were omitted here and included with cattle in Table 5.

Source: For years before 1992, Livestock and Meat Statistics, USDA, selected issues. For 1992, terminal marketings, John Van Dyke, Livestock and Grain Market News Branch, AMS, USDA. For 1992, total (US) marketings, Meat Animals: Production, Disposition and Income, MtAn 1-1(93), NASS, USDA, April, 1993.

**Table 4: TERMINAL HOGS: Salable Receipts at Terminal Public Stockyards, United States, Selected Years, 1953-1992<sup>1</sup>**

Market	1953	Receipts as a Percent of 1953			1992
		1963	1973	1983	
Baltimore, MD	161,675	84.16	35.69	0	0
Chicago, IL	2,260,938	76.05	0	0	0
Cincinnati, OH	666,686	91.75	17.70	0	0
Evansville, IN	369,728	134.41	46.17	0	0
Fort Smith, AR	34,241	38.50	34.26	21.43	0
Forth Worth, TX	81,351	90.40	78.29	0	0
Indianapolis, IN	2,041,142	77.63	1.96	29.81	0
Joplin, MO	78,473	119.95	79.33	54.92	0
Kansas City, MO	465,930	202.51	142.85	51.20	0
Lancaster, PA	99,674	72.56	90.25	204.84	46.28
Louisville, KY	326,715	118.10	72.29	48.32	22.86
Memphis, TN	182,875	52.34	28.74	6.37	0
Milwaukee, WI	275,908	42.67	25.27	0	0
E. St. Louis, IL	2,224,498	108.32	59.10	54.92	24.18
Oklahoma City, OK	158,620	103.63	118.45	74.12	23.60
Omaha, NE	1,785,415	139.70	74.45	46.57	21.21
Peoria, IL	1,004,318	92.52	102.94	74.21	0
San Antonio, TX	6,676	731.74	729.52	624.73	320.15
Sioux City, IA	1,737,444	116.71	101.98	76.67	28.65
Sioux Falls, SD	671,116	134.69	168.46	199.85	116.53
St. Joseph, MO	1,085,897	118.98	99.75	69.88	40.39
St. Paul, MN	2,301,893	100.63	65.89	44.00	20.81
Springfield, MO	164,445	140.68	81.59	35.77	0
Tulsa, OK	74,499	51.32	8.40	0	0
All Terminal Marketings	18,260,157	105.15	61.31	47.82	18.04
All US Marketings (000)	68,572	86,163	82,419	89,129	99,115
Percent Terminal	26.63	22.28	13.58	9.80	3.32

<sup>1</sup> All listed originally as Terminal Public Stockyards by Packers and Stock yards Administration, USDA. The list contained 28 entries as of January, 1979. Some are omitted here. Although many terminals have switched to auction bidding, most hog sales at major terminals remain private treaty transactions.

<sup>2</sup> Percentages may be underestimated to the extent that some terminals are excluded here.

Source: For years before 1992, Livestock and Meat Statistics, USDA, selected issues. For 1992, terminal marketings, John Van Dyke, Livestock and Grain Market News Branch, AMS, USDA. For 1992, total (US) marketings, Meat Animals: Production, Disposition and Income, MtAn 1-1(93), NASS, USDA, April, 1993.

**Table 5: SHEEP AND LAMBS: Salable Receipts at Terminal Public Stockyards, United States, Selected Years, 1953-1992<sup>1</sup>**

Market	Receipts as a Percent of 1953				
	1953	1963	1973	1983	1992
Baltimore, MD	18,952	34.81	14.14	0	0
Chicago, IL	574,520	22.76	0	0	0
Cincinnati, OH	77,263	57.70	9.89	0	0
Evansville, IN	37,312	35.73	4.83	3.63	0
Fort Smith, AR	4,715	7.19	.46	0.46	0
Forth Worth, TX	751,584 <sup>2</sup>	56.69	1.47	0	0
Indianapolis, IN	220,378	48.50	19.83	2.26	0
Joplin, MO	15,276	39.36	0	0	0.04
Kansas City, MO	361,025	56.87	10.16	4.57	0
Lancaster, PA	28,146	72.81	45.18	96.13	274.53
Louisville, KY	150,888	38.61	6.15	3.70	13.00
Memphis, TN	3,077	17.00	0	0	0
Milwaukee, WI	56,817	59.50	13.78	0	0
E. St. Louis, IL	351,668	51.49	11.14	6.12	4.48
Oklahoma City, OK	108,419	66.29	20.52	3.86	1.86
Omaha, NE	797,476	54.51	11.43	2.97	1.41
Peoria, IL	107,364 <sup>2</sup>	23.58	19.86	9.78	0
San Antonio, TX	201,806	29.45	1.49	0.14	0.02
Sioux City, IA	411,189	85.12	24.84	4.49	4.61
Sioux Falls, SD	194,439	218.66	186.76	78.99	95.08
St. Joseph, MO	280,403	97.17	22.55	0.40	4.31
St. Paul, MN	651,653	89.42	37.24	20.03	13.42
Springfield, MO	69,473	60.57	13.52	1.62	22.53
Tulsa, OK	4,311	17.14	1.72	0	0
All Terminal Marketings	5,478,154	65.20	19.91	7.66	6.70
All US Marketings (000)	20,884	21,685	22,077	8,924	8,190
Percent Terminal	26.23	16.47	4.94	4.70	4.48

<sup>1</sup> All listed originally as Terminal Public Stockyards by Packers and Stock yards Administration, USDA. The list contained 28 entries as of January, 1979. Some are omitted here.

<sup>2</sup> Salable receipts at Fort Worth and San Antonio include goats in 1953.

<sup>3</sup> Percentages may be underestimated to the extent that some terminals are excluded here.

Source: For years before 1992, Livestock and Meat Statistics, USDA, selected issues. For 1992, terminal marketings, John Van Dyke, Livestock and Grain Market News Branch, AMS, USDA. For 1992, total (US) marketings, Meat Animals: Production, Disposition and Income, MtAn 1-1(93), NASS, USDA, April, 1993.

70.85 percent of 1953, and that cattle operations closed in August, 1971 (footnote). The changing prospects of 24 terminals are recorded in these tables. According to Table 2, total terminal cattle sales by 1992 were at 15.68 percent of their 1953 volume, and accounted for 4.94 percent of all U.S. cattle marketings (bottom right).

### **LIVESTOCK PURCHASES BY PACKERS**

The Packers and Stockyards Administration of the USDA enforces a 1921 Act of Congress intended to insure open and competitive livestock markets with adequate facilities, accurate scales, and reasonable services at fair and nondiscriminatory rates. The information contained in Tables 6-9 comes from P&S Statistical Reports which record the annual livestock purchases of packers reporting to this federal agency.

The tables, therefore, cover only slaughter livestock, and offer no information about the substantial movement of nonslaughter livestock, such as feeder animals and other transfers between producers. Auctions have an important role in nonslaughter marketing, and terminals are also active. Notice the importance of auctions for packer calf purchases in Table 6 (whether a calf is slaughter or nonslaughter depends on who is the highest bidder at the sale) which confirms a large volume of calves at auctions.

Table 6 summarizes packer purchases in recent years. Notice that changes were made in terminology during these years. For example, terminals and auctions are combined as 'public markets' after 1987, and what is called 'direct purchases' at the top of the table is called 'nonpublic markets' at the bottom. What remains constant through these changes is a distinction P&S is maintaining between those markets that do offer professional representation for sellers and those that do not. The difficulty

**Table 6: ALL LIVESTOCK: Packer Purchases of Livestock by Type of Market Outlet and Class of Livestock, Reporting Slaughter Packers, Selected Years, United States, 1979-1990**

Market Outlet and Reporting Year	Cattle		Calves		Hogs		Sheep/Lambs	
	1,000 Head	Percent	1,000 Head	Percent	1,000 Head	Percent	1,000 Head	Percent
<b>1979</b>								
Direct purchases <sup>1</sup>	24,881	77.7	1,080	41.9	61,554	74.9	4,013	81.6
Terminal markets <sup>2</sup>	2,786	8.7	168	6.5	12,218	14.9	445	9.1
Auction markets <sup>2</sup>	4,374	13.7	1,329	51.6	8,448	10.3	458	9.3
Total <sup>3</sup>	32,041	100.0	2,577	100.0	82,220	100.0	4,916	100.0
<b>1981</b>								
Direct purchases <sup>1</sup>	24,822	77.4	969	42.7	67,334	78.4	4,250	78.0
Terminal markets <sup>2</sup>	2,611	8.1	205	9.0	9,974	11.6	382	7.0
Auction markets <sup>2</sup>	4,645	14.5	1,093	48.2	8,591	10.0	815	15.0
Total <sup>3</sup>	32,078	100.0	2,268	100.0	85,899	100.0	5,448	100.0
<b>1983</b>								
Direct purchases <sup>1</sup>	26,005	77.6	1,231	48.4	60,436	76.8	4,948	82.4
Terminal markets <sup>2</sup>	2,363	7.1	114	4.5	11,166	14.2	362	6.0
Auction markets <sup>2</sup>	5,130	15.3	1,201	47.2	7,070	9.0	697	11.6
Total <sup>3</sup>	33,498	100.0	2,546	100.0	78,672	100.0	6,007	100.0
<b>1985</b>								
Direct purchases <sup>1</sup>	27,462	80.1	1,543	54.6	67,687	84.2	4,750	80.4
Terminal markets <sup>2</sup>	1,841	5.4	86	3.1	7,272	9.0	515	8.7
Auction markets <sup>2</sup>	4,965	14.5	1,194	42.3	5,458	6.8	643	10.9
Total <sup>3</sup>	34,267	100.0	2,824	100.0	80,417	100.0	5,909	100.0
<b>1987</b>								
Direct purchases <sup>1</sup>	27,540	80.2	1,545	61.0	68,881	88.8	3,939	81.4
Terminal markets <sup>2</sup>	1,437	4.2	81	3.2	4,888	6.3	266	5.5
Auction markets <sup>2</sup>	5,372	15.6	908	35.8	3,789	4.9	631	13.0
Total <sup>3</sup>	34,349	100.0	2,534	100.0	77,558	100.0	4,836	100.0
<b>1989</b>								
Nonpublic markets <sup>1</sup>	26,550	82.5	1,422	68.5	74,478	89.5	4,251	83.2
Public markets <sup>4</sup>	5,649	17.5	653	31.5	8,709	10.5	861	16.8
Total <sup>3</sup>	32,199	100.0	2,075	100.0	83,188	100.0	5,112	100.0
<b>1990</b>								
Nonpublic markets <sup>1</sup>	26,644	83.5	1,271	75.7	72,167	90.0	3,766	81.5
Public markets <sup>4</sup>	5,249	16.5	408	24.3	8,011	10.0	858	18.5
Total <sup>3</sup>	31,892	100.0	1,678	100.0	80,178	100.0	4,623	100.0

<sup>1</sup> Direct purchases at packing plants, buying stations, country points, feedlots, etc. Called "nonpublic" after 1987.

<sup>2</sup> Terminals have more than one market agency selling on commission; auctions have only one.

<sup>3</sup> Total may not add due to rounding.

<sup>4</sup> Public markets include both Terminal and Auction markets.

Source: Packers and Stockyards' Statistical Report, Annual Issues, PSA, USDA.

with 'direct purchases' in the earlier years was that it included (without acknowledging them) many private markets that were part of the country marketing system, a distinction of more substance, perhaps, to the competitors than to a regulatory agency more focused on enforcement than on distinctions without differences in competitive performance.

Table 7 identifies the 10 largest U.S. meatpackers and reveals some interesting differences between their purchase patterns and those of all other packers. First, the magnitude of change in the meatpacking industry is suggested by the names of these 10 companies, which include only one name from the list of 10 national packers that led the industry during the terminal and country marketing eras. Second, we see that the largest packers kill no calves and that few of them kill sheep and lambs. Third, it appears that these largest packers rely much more on direct transactions with producers, perhaps because they deal with comparatively more large production units like the feedlots in the Southern Plains. Fourth, the total business volume of the 10 largest packers is more than three times the volume of all other cattle packers combined, and nearly twice the volume of all other pork packers. Fifth, it is apparent that the packing industry at large has not changed as much as the leadership has, given the much greater importance of traditional markets in the purchase patterns of the local and regional packers that are not among the top 10.

Tables 8 and 9 offer some regional insights into steer and heifer purchases and hog purchases. Notice in Table 8, for example, that most steer and heifer purchases are made in the West North Central states and the Southern Plains. This corresponds with the locations of most of the large commercial feedlots, which account for 85 percent of



**Table 7: Packer Purchases of Livestock by Firm Size Group, Type of Market Outlet, and Class of Livestock, Reporting Slaughter Packers, United States, 1990**

Firm size and type of market outlet <sup>1</sup>	C A T T L E <sup>2</sup>		C A L V E S		H O G S		SHEEP/LAMBS	
	1,000 head	Percent	1,000 head	Percent	1,000 head	Percent	1,000 head	Percent
<u>10 largest packers</u> <sup>3</sup>								
Nonpublic markets	20,430	94.8	0	0.0	46,447	93.9	D <sup>4</sup>	D <sup>4</sup>
Public markets	1,131	5.2	0	0.0	3,012	6.1	D	D
Total <sup>5</sup>	21,561	100.0	0	0.0	49,459	100.0	D	D
<u>Other packers</u>								
Nonpublic markets	6,213	60.1	1,271	75.7	25,720	83.7	D	D
Public markets	4,118	39.9	408	24.3	4,998	16.3	D	D
Total <sup>5</sup>	10,331	100.0	1,678	100.0	30,719	100.0	D	D
<u>All packers</u>								
Nonpublic markets	26,644	83.5	1,271	75.7	72,167	90.0	3,766	81.5
Public markets	5,249	16.5	408	24.3	8,011	10.0	858	18.5
Total <sup>5</sup>	31,892	100.0	1,678	100.0	80,178	100.0	4,623	100.0

<sup>1</sup> Public markets include terminals and auctions.; nonpublic markets include all other sources of livestock.

<sup>2</sup> Includes steers, heifers, cows and bulls.

<sup>3</sup> Based on total dressed weight of all livestock slaughtered, the 10 largest reporting packers in alphabetical order for 1990, are: Beef America, ConAgra, Inc., Excel Corporation, Farmland Foods, Inc., FDL Foods, IBP, Inc., John Morrell & Co., National Beef Packing Company, Sara Lee Corporation, and Smithfield Foods, Inc.

<sup>4</sup> D Denotes entry was withheld to avoid disclosing data for individual companies.

<sup>5</sup> Totals may not add due to rounding.

Source: Packers & Stockyards' Statistical Report, 1990 Reporting Year, PSA, USDA.

Table 8: STEERS AND HEIFERS: Packer Purchases by Region and State of Slaughter and Type of Market Outlet, United States, 1990

Region and State of Slaughter <sup>1</sup>	Purchases by Type of Market Outlet <sup>2</sup>		Total	Share of Total Purchases by Outlet <sup>2</sup>	
	Nonpublic Market	Public Market		Nonpublic Market	Public Markets
	- - - - - 1,000 head - - - - -      - - - Percent - - -				
New England	(D) <sup>3</sup>	(D) <sup>3</sup>	1	(D) <sup>3</sup>	(D) <sup>3</sup>
New Jersey	(D)	(D)	4	(D)	(D)
New York	2	2	5	50.1	49.9
Pennsylvania	214	131	345	62.0	38.0
<u>N. Atlantic</u>	218	138	355	61.3	38.7
Illinois	918	34	952	96.4	3.6
Indiana	16	15	32	50.9	49.1
Michigan	46	137	182	25.1	74.9
Ohio	80	34	114	70.4	29.6
Wisconsin	187	236	422	44.2	55.8
<u>E.N. Central</u>	1,246	456	1,702	73.2	26.8
Iowa	1,442	330	1,772	81.4	18.6
Kansas	6,172	13	6,185	99.8	0.2
Minnesota	511	83	594	86.0	14.0
Missouri	(D)	(D)	(D)	(D)	(D)
N. Dakota	(D)	(D)	(D)	(D)	(D)
Nebraska	4,750	200	4,950	96.0	4.0
S. Dakota	226	121	348	65.1	34.9
<u>W.N. Central</u>	13,103	751	13,854	94.6	5.4
Delaware & Maryland	4	24	28	15.7	84.3
Florida	(D)	(D)	14	(D)	(D)
Georgia	(D)	(D)	(D)	(D)	(D)
N. Carolina	< 1	< 1	< 1	46.0	54.0
S. Carolina	1	< 1	2	65.4	34.6
Virginia	9	3	12	71.9	28.1
W. Virginia	(D)	(D)	(D)	(D)	(D)
<u>S. Atlantic</u>	36	29	65	55.0	45.0
Alabama	(D)	(D)	(D)	(D)	(D)
Arkansas	(D)	(D)	(D)	(D)	(D)
Kentucky	(D)	(D)	(D)	(D)	(D)
Louisiana	12	4	16	77.9	22.1
Mississippi	(D)	(D)	(D)	(D)	(D)
Tennessee	(D)	(D)	(D)	(D)	(D)
<u>S. Central</u>	213	89	302	70.6	29.4
Oklahoma	(D)	(D)	6	(D)	(D)
Texas	(D)	(D)	4,724	(D)	(D)
<u>S. Plains</u>	4,691	39	4,730	99.2	0.8

Continued

Table 8, continued

Region and State of Slaughter <sup>1</sup>	Purchases by Type of Market Outlet <sup>2</sup>		Total	Share of Total Purchases by Outlet <sup>2</sup>	
	Nonpublic Market	Public Market		Nonpublic Market	Public Markets
	- - - - - 1,000 head - - - - -			- - - Percent - - -	
Arizona	(D)	(D)	319	(D)	(D)
Colorado	(D)	(D)	2,180	(D)	(D)
Idaho	407	17	424	96.0	4.0
Montana	(D)	(D)	2	(D)	(D)
New Mexico	(D)	(D)	43	(D)	(D)
Utah	(D)	(D)	(D)	(D)	(D)
Wyoming	(D)	(D)	(D)	(D)	(D)
<u>Mountain</u>	3,336	35	3,371	99.0	1.0
California	608	44	652	93.2	6.8
Oregon	12	< 1	13	92.9	7.1
Washington	674	< 1	674	99.9	<0.1
<u>Pacific</u>	1,294	45	1,339	96.6	3.4
Hawaii and Alaska	(D)	(D)	(D)	(D)	(D)
Total	24,171	1,588	25,759	93.8	6.2

<sup>1</sup> Location of slaughter but not necessarily the origin of the livestock.

<sup>2</sup> Public markets include terminals and auctions. Nonpublic markets include all other sources of livestock.

<sup>3</sup> D Denotes entry was withheld to avoid disclosing data for individual companies.

Source: Packers and Stockyards' Statistical Report, 1990 Reporting Year, PSA, USDA.

fed cattle output (ES0-1934). It is reasonable to suppose that nearly all the 'nonpublic' sources here are indeed direct feedlot purchases. Notice that public markets are unimportant sources in these locations. Outside these areas purchase patterns are more traditional.

In Table 9, most of the purchase activity is in the North Central states because they account for about 80 percent of total U.S. slaughter hog production. Here again 'nonpublic' sources are important but probably do not represent purely 'direct' purchases because many country point markets, specializing in slaughter hogs, are active in this region (see Table 1 and ES0-1980).

#### **ANTICIPATING THE FUTURE**

So livestock marketing and meatpacking have been re-invented again in the past few decades. The format this time is based on specialization, economies of large size, and direct transactions between participants connected to the interstate highway system. Industry leadership has been characterized by rapid adoption and development of new methods at new locations. The industry that remains in more traditional areas now seeks to determine how its own future will unfold, and enterprising groups are forming to examine their prospects and identify their opportunities.

In the market for products like commercial livestock or fresh meats, the competitive advantage to individual firms lies always in low production costs and almost never in premium product prices. Premiums for what? These are perishable and substitutable products that are bought and sold daily by buyers and sellers who all are free to change their minds about where they will buy or sell tomorrow.

Table 9: HOGS: Packer Purchases by Region and State of Slaughter and Type of Market Outlet, United States, 1990

Market Outlet, United States, 1990					
Region and State of Slaughter <sup>1</sup>	Purchases by Type of Market Outlet <sup>2</sup>		Total	Share of Total Purchases by Outlet <sup>2</sup>	
	Nonpublic Markets	Public Markets		Nonpublic Markets	Public Markets
	- - - - - 1,000 head - - - - -			- - - Percent - - -	
New England	(D) <sup>3</sup>	(D) <sup>3</sup>	12	(D) <sup>3</sup>	(D) <sup>3</sup>
New Jersey	(D)	(D)	76	(D)	(D)
New York	12	16	28	42.3	57.7
Pennsylvania	1,391	396	1,787	77.9	22.1
<u>N. Atlantic</u>	1,408	494	1,902	74.0	26.0
Illinois	7,524	1,036	8,560	87.9	12.1
Indiana	3,372	285	3,658	92.2	7.8
Michigan	3,504	62	3,566	98.3	1.7
Ohio	1,200	325	1,525	78.7	21.3
Wisconsin	215	66	281	76.4	23.6
<u>E.N. Central</u>	15,815	1,774	17,589	89.9	10.1
Iowa	23,884	1,730	25,614	93.2	6.8
Kansas	521	233	754	69.1	30.9
Minnesota	4,665	261	4,926	94.7	5.3
Missouri	2,484	229	2,713	91.6	8.4
N. Dakota	(D)	(D)	(D)	(D)	(D)
Nebraska	(D)	(D)	(D)	(D)	(D)
S. Dakota	3,435	1,000	4,435	77.4	22.6
<u>W.N. Central</u>	40,225	3,594	43,820	91.8	8.2
Delaware & Maryland	(D)	(D)	(D)	(D)	(D)
Florida	(D)	(D)	18	(D)	(D)
Georgia	1,206	254	1,461	82.6	17.4
N. Carolina	2,023	278	2,301	87.9	12.1
S. Carolina	343	196	539	63.6	36.4
Virginia	(D)	(D)	(D)	(D)	(D)
W. Virginia	(D)	(D)	(D)	(D)	(D)
<u>S. Atlantic</u>	7,839	974	8,813	88.9	11.1
Alabama	55	2	57	96.4	3.6
Arkansas	(D)	(D)	198	(D)	(D)
Kentucky	2,382	154	2,535	93.9	6.1
Louisiana	(D)	(D)	10	(D)	(D)
Mississippi	1,761	80	1,840	95.7	4.3
Tennessee	623	243	866	71.9	28.1
<u>S. Central</u>	4,965	542	5,507	90.2	9.8
Oklahoma	56	64	120	46.7	53.3
Texas	45	108	153	29.3	70.7
<u>S. Plains</u>	101	172	273	37.0	63.0

Continued

Table 9, continued

Region and State of Slaughter <sup>1</sup>	Purchases by Type of Market Outlet <sup>2</sup>		Total	Share of Total Purchases by Outlet <sup>2</sup>	
	Nonpublic Markets	Public Markets		Nonpublic Markets	Public Markets
	- - - - - 1,000 head - - - - -			- - - Percent - - -	
Arizona	(D)	(D)	(D)	(D)	(D)
Colorado	(D)	(D)	(D)	(D)	(D)
Idaho	68	7	74	90.8	9.2
Montana	(D)	(D)	15	(D)	(D)
New Mexico	(D)	(D)	(D)	(D)	(D)
Utah	(D)	(D)	(D)	(D)	(D)
Wyoming	(D)	(D)	(D)	(D)	(D)
<u>Mountain</u>	332	8	340	97.6	2.4
California	1,354	413	1,767	76.6	23.4
Oregon	107	31	138	77.7	22.3
Washington	5	8	13	36.4	63.6
<u>Pacific</u>	1,466	453	1,919	76.4	23.6
Hawaii and Alaska	15	0	15	100.0	0.0
Total	72,167	8,011	80,178	90.0	10.0

<sup>1</sup> Location of slaughter but not necessarily the origin of the livestock.

<sup>2</sup> Public markets include terminals and auctions. Nonpublic markets include all other sources of livestock.

<sup>3</sup> D Denotes entry was withheld to avoid disclosing data for individual companies.

Source: Packers & Stockyards' Statistical Report, 1990 Reporting Year, PSA, USDA.

So industry groups that meet to identify opportunities for particular locations, like Ohio, will search for at least one and possibly two things: Most obvious will be a search for cost advantages through things like size economies, labor productivity, production contracts, and costs particular to the location, notably transfer costs in and out (freight), state mandates (taxes, insurance), and public attitudes about local resource use. Much less likely (but rewarding when it works) is the possibility of premium prices by buffering a product's substitutability with successful product differentiation. Successful differentiation in the livestock/meat industry usually is associated with registered rather than commercial livestock, and processed rather than fresh meats.

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automobile owners, generated a clamor for better roads. A network of reliable, all-weather roads, hardtopped or graveled and maintained, spread rapidly in response to this new public priority. By the beginning of the 1930s, modest interior towns had highway as well as rail connections, and the big cities no longer had a great transportation advantage over any well-connected rural crossroads.

The Depression - The commercial possibilities inherent in trucks and highways as alternatives to rails might have taken longer to develop had it not been for the economic dislocations (unemployment, poverty, and especially the scarcity of currency) imposed by the Great Depression in the 1930s. The depression served as a catalyst for self-help projects among livestock producers who found freight costs to distant terminals, and commission and yardage charges there, to be imposing barriers in converting livestock to cash.

Decentralized Marketing - Among the solutions that emerged were local livestock markets (many of them cooperatively owned by farmers, and many of them auctions) that took advantage of the new highway network. These were not 'new' in any operational sense. Farmer-owned auctions had a history - mostly for purebred distribution - reaching back to colonial times, and farmers had for many years operated shipping association with pen space where livestock were forwarded to the terminals. Each of these served as examples to follow and alter in developing a 'decentralized' or 'country' marketing system as a competitive alternative to the 'centralized' or 'terminal' marketing system that had grown up with the rails. Country marketing and terminal